

## **Remarks**

### **A. Status of the Claims**

Claims 1-42 were pending at the time of the Action. Claims 11-16 have been canceled as being drawn to a non-elected invention. Claims 1, 17, and 26 have been amended to include the phrase “wherein the amines located on the polyamine are not sterically hindered,” and claim 36 has been amended to include the phrase “wherein the amines located on the piperazine derivative are not sterically hindered.” Support for these amendments may be found in the specification at, for example, page 4, lines 21-24, and page 7, lines 15-16. Claims 2, 20, 28, and 37 have been amended to recite only compounds with amines that are not sterically hindered. Claims 1-10 and 17-42 are now pending.

### **B. Response to the Restriction Requirement**

During a telephone conversation with the Examiner on October 19, 2009, Applicants provisionally elected, without traverse, to prosecute the Group I invention (*i.e.*, claims 1-10 and 17-42). Applicants confirm this election in response to the Restriction Requirement that the Examiner imposed.

### **C. The Claims Are Novel Over Sartori**

Claims 1-4, 6-8, 17-22, 24, 36-39, and 41 were rejected under 35 U.S.C. 102(b) as anticipated by US Pat. No. 4,217,237 to Sartori, et al. (Sartori). Applicants traverse this rejection.

A claim is anticipated only if each and every element arranged as in the claim is found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Sartori does not anticipate claims 1-4, 6-8, 17-22, 24, 36-39, and 41, because Sartori does not disclose a method for removing CO<sub>2</sub> from a gaseous stream using a solution in which the amines located on the polyamine or piperazine derivative are *not sterically hindered*. Sartori

explicitly limits its disclosure to sterically hindered amines (*see e.g.*, col. 1, ln. 21-26). A person of ordinary skill in the art would understand the difference between a sterically hindered amine and an amine that is not sterically hindered as evidenced by Sartori's patent as well as by the enclosed 1983 journal article by Sartori (*see p. 243*).

In view of the above, Sartori does not anticipate the current claims. Applicants, therefore, request the withdrawal of this rejection.

#### **D. The Claims Are Non-Obvious**

The Action raised three rejections under 35 U.S.C. 103(a). Claims 10, 25, 26-30, 32-35, and 42 are rejected as obvious over Sartori. Claims 5, 23, 31, and 40 were rejected as obvious over Sartori in combination with Bishnoi and Rochelle. And, claim 9 was rejected as obvious over Sartori in view of U.S. Pat. No. 2,864,799 to De Groote, et al. ("De Groote"). Applicants traverse these rejections.

Sartori is the primary reference relied upon in each of the obviousness rejections. As discussed above in regard to the anticipation rejection, Sartori does not disclose a method for removing CO<sub>2</sub> from a gaseous stream using a solution in which the amines located on the polyamine or piperazine derivative are *not sterically hindered*. Not only does Sartori not disclose the use of amines that are not sterically hindered, Sartori actually teaches away from using amines that are not sterically hindered. For example, at column 1, lines 21-26, Sartori states that "[t]he invention ... relates to the use of an amine activated basic salt solution for removing CO<sub>2</sub> containing gases wherein at least one of the amines is a sterically hindered amine." At column 8, lines 45-50, Sartori states that "[t]he sterically hindered amines of the present invention allow a more complete desorption as compared to the prior art amine-promoted scrubbing solutions ...."

Thus, Sartori does not disclose the use of amines that are not sterically hindered, and in fact, provides a divergent teaching that sterically hindered amines should be used. Accordingly, claims 10, 25, 26-30, 32-35, and 42 are not obvious over Sartori. Claims 5, 23, 31, and 40 also are not obvious over Sartori in combination with Bishnoi and Rochelle, because a person of ordinary skill in the art would not have modified the method of Sartori to use the piperazine of Bishnoi and Rochelle in view of Sartori's explicit teaching to use only compounds with sterically hindered amines. Finally, claim 9 is not obvious over Sartori in view of De Groote, because De Groote's teachings regarding a water wash system do not overcome the deficiencies in Sartori as discussed above. *See MPEP § 2143.03* (stating that if an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious.)

In view of the above, the claims are patentable over the cited references. Applicants, therefore, respectfully request the withdrawal of these rejections.

#### E. Conclusion

In light of the foregoing, Applicants respectfully submit that all claims are in condition for allowance. The Examiner is invited to contact the undersigned with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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